Total No. of Questions : 6]

SEAT No. :

P2001

[Total No. of Pages : 2

[5145]-606

Third Year B.Pharmacy

BIOORGANIC CHEMISTRY & DRUG DESIGN

(2013 Pattern) (Semester - VI)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Answers to the two sections should be written in separate answer books.***
3) ***Figures to the right side indicate full marks.***

SECTION - I

Q1) How are enzymes classified? Give suitable examples of each class. Explain in detail physiological role of Monoamine oxidase enzyme with differentiation between its subtypes. **[10]**

OR

Explain biosynthesis of prostaglandins by cyclooxygenase. Differentiate between COX 1 and 2 enzymes and comment on their inhibitors.

Q2) Attempt any five of the following: **[15]**

a) Write a note on Tyrosine Kinase inhibitors.

b) Explain rate limiting step in Cholesterol synthesis.

c) How molecules are recognized at target site? Explain.

d) Explain mechanism of action of Methotrexate.

e) Write a note on Molecular adaptation and explain the term 'Proximity effect'.

f) Explain how intercalation contributes in binding of drug with DNA/RNA.

g) Write a note on topoisomerase - II enzyme.

P.T.O.

Q3) Answer any two of following: **[10]**

a) Write a note on antisense therapy.

b) Write a note on physiological role of Carbonic Anhydrase and their inhibitors.

c) Write a note on adrenergic receptors and explain their types.

d) Write a note on dopamine receptors and their agonists and antagonists.

SECTION - II

Q4) Explain Drug Discovery process. Give detail account of different methods of Drug Discovery. **[10]**

OR

Explain the concept, types and application of QSAR technique in drug design.

Q5) Attempt any five of the following: **[15]**

a) Explain how lead optimization contributes in drug design.

b) Explain History of QSAR.

c) Explain the concept of prodrug design with suitable example.

d) Write a note on software used in Molecular Docking.

e) Explain Molecular Dynamics.

f) Write a note on descriptors used in QSAR model.

g) Explain Free Wilson method in QSAR.

Q6) Answer any two of following: **[10]**

a) Define Pharmacophore. Explain workflow of pharmacophore model construction.

b) Give five applications of prodrug design.

c) Explain Structure-based drug design.

d) Explain types of enzyme inhibition in rational drug design.